

Permit No.: 96-01-03
Expiration Date: 10/29/02
Page 1 of 30

8411 Jackson Road Sacramento, CA 95826

PERMIT TO OPERATE

ISSUED TO:

Grafil, Inc.
5900 88th Street
Sacramento, CA 95828

PLANT SITE LOCATION:

5900 88th Street
Sacramento, CA 95828

ISSUED BY:

Norman D. Covell, Air Pollution Control Officer Date

Nature of Business: Manufacturing of carbon fiber
SIC Code: 2824 (NAICS 32522)

RESPONSIBLE OFFICIAL:

Name: Mr. H. Sugao
Title: General Manager
Phone: (916) 386-1733

CONTACT PERSON:

Name: Eric Argent
Title: Quality Ctrl. Mgr
Phone: (916) 386-1733

TABLE OF CONTENTS

PERMIT SUMMARY 3

Grafil, Inc. Permit No.: 96-01-03
5900 88th Street., Sacramento Expiration Date: 10/29/02
Page 1 of 30
FACILITY DESCRIPTION 4

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS 5

TITLE V PERMIT MODIFICATIONS AND RENEWAL 5
COMPLIANCE 6
REPORTS AND RECORDKEEPING 7
RINGELMANN CHART 9
PARTICULATE MATTER 9
SULFUR COMPOUNDS 10
ARCHITECTURAL COATING 10
EQUIPMENT BREAKDOWNS 11
TITLE VI REQUIREMENTS (OZONE DEPLETING SUBSTANCES) 14
PAYMENT OF FEES 14
ACCIDENTAL RELEASES 14

LOCAL (NON-FEDERALLY ENFORCEABLE) GENERAL REQUIREMENTS 15

LOCAL PERMIT RENEWAL 15
EQUIPMENT OPERATION 15

EQUIPMENT-SPECIFIC REQUIREMENTS 17

PROCESS LINES 31 AND 32 (LOCAL PERMITS #11425 THROUGH 11430) 17
BOILER (LOCAL PERMIT #9828) 23
STANDBY INTERNAL COMBUSTION ENGINE (LOCAL PERMIT #9827) 24

BAGHOUSE (LOCAL PERMIT #13570) 26

INSIGNIFICANT EMISSION UNITS 29

PERMIT SUMMARY

This permit shall serve as a conditional Permit to Operate pursuant to SMAQMD Rule 201 (General Permit Requirements) and SMAQMD Rule 207 (Title V - Federal Operating Permit Program). Requirements identified in the permit as non-federally enforceable are not enforceable by U.S. EPA. However, they are enforceable by the District.

Your application for this air quality Permit to Operate was evaluated for compliance with Sacramento Air Quality Management District (SMAQMD), State and Federal air quality rules. The following listed rules are those that are most applicable to the operation of your equipment. Other rules may also be applicable.

Citation	Description	Adoption Date	Federally Enforceable?
Rule 201	General Permit Requirements (SIP approved)	11/20/84	Y
Rule 201	General Permit Requirements (Not SIP approved)	06/07/94	N
Rule 202	New Source Review (SIP approved)	11/20/84	Y
Rule 202	New Source Review (Not SIP approved)	04/04/96	N
Rule 207	Title V - Federal Operating Permit Program	09/05/96	Y
Rule 301	Permit Fees - Stationary Source	12/05/96	N
Rule 306	Air Toxics Fees	01/09/97	N
Rule 401	Ringelmann Chart	04/19/83	Y
Rule 402	Nuisance	08/03/77	N
Rule 403	Fugitive Dust	08/03/77	Y
Rule 404	Particulate Matter	11/20/84	Y
Rule 406	Specific Contaminants	12/06/78	Y
Rule 442	Architectural Coatings	09/06/96	N
Rule 442	Architectural Coatings	11/29/83	Y
Rule 602	Breakdown Conditions: Emergency Variance	12/6/78	Y

In addition, the conditions on this Permit to Operate may reflect some, but not all, requirements of these rules. There may be other conditions that are applicable to the operation of your equipment. Future changes in prohibitory rules may establish more stringent requirements which may supersede the conditions listed here.

FACILITY DESCRIPTION:

Grafil is engaged in the manufacturing of carbon fiber at its facility in Sacramento, California. The carbon fibers are made from polyacrylic fiber (SIC Code 2222).

Grafil manufactures the carbon fiber in two parallel production lines, Lines 31 and 32, which are operated independently of each other. Carbon fiber is coated in a water-based, nylon coating in a third processing line, which is operated independently from the two production lines.

High-quality, continuous polyacrylic fibers on spools are received in

containers and stored in the precursor warehouse. During processing, spools are reclaimed from the storage area and batch loaded to the feed end of each production line. Fiber unwound from the spools is processed through a sequence of production steps in one production line or the other. These steps include, in order, surface oxidation in atmospheric ovens, tar removal in low-temperature furnaces, and carbonization in high-temperature furnaces, followed by surface treatment of the fibers with a solution that promotes good adhesion with polymer matrix systems, a necessary requirement for some end users.

Total processing time through each line is dependent on package length, fiber speed, and customer product requirements. Processing operations occur semi-continuously, 24 hours per day, 7 days per week, 52 weeks per year.

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

TITLE V PERMIT MODIFICATIONS AND RENEWAL

1. The owner or operator of a stationary source shall submit to the Air Pollution Control Officer a complete Title V permit application for renewal no later than 12 months prior to the expiration date of the Title V permit. [Rule 207, §301.4]

2. The owner or operator of a stationary source shall submit to the Air Pollution Control Officer a complete Title V permit application for minor Title V permit modification. The application shall be submitted after receiving any required preconstruction permit from the District and before commencing operation associated with the Minor Title V permit modification. [Rule 207, §301.6]

3. The owner or operator of a stationary source shall submit to the Air Pollution Control Officer a complete Title V permit application for Significant Title V permit modification. The application shall not be submitted prior to receiving any required preconstruction permit from the District but no later than 12 months after commencing an operation associated with the Significant Title V permit modification. Where an existing federally enforceable Title V permit condition would prohibit such change in operation or the stationary source is not required to obtain a preconstruction permit, the owner or operator must obtain a Title V permit modification before commencing operation. [Rule 207, §301.7]

4. The applicant shall submit to the Air Pollution Control Officer timely updates to the Title V application as new requirements become applicable to the source. [Rule 207, §302.1]

5. The applicant shall submit to the Air Pollution Control Officer any additional information necessary to correct any incorrect information in the Title V permit application upon becoming aware of such incorrect submittal or if the applicant is notified by the Air Pollution Control Officer of such incorrect submittal. [Rule 207, §302.2]

6. The applicant shall submit to the Air Pollution Control Officer any additional information relating to the Title V application within 30 days if such information is requested in writing by the Air Pollution Control Officer. [Rule 207, §302.3]

7. Title V permit expiration terminates the stationary source's right to operate unless a timely and complete Title V permit application for renewal

has been submitted and the stationary source complies with subsections 303.1a, b, c, and d of Rule 207, in which case the existing Title V permit will remain in effect until the Title V permit renewal has been issued or denied. [Rule 207, §303.2]

8. Any Title V application form, report, or compliance certification submitted pursuant to this permit shall contain certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. [Rule 207, §304]

9. This Title V permit shall have a 5-year fixed term from the date of issuance. The Title V permit shall have a new 5-year fixed term from the date of final action on reopening if the responsible official chooses to submit to the District a complete Title V application for renewal upon reopening of the Title V permit pursuant to Sections 411 or 412 of Rule 207 and the Title V permit is renewed according to the administrative procedures listed in Sections 401 through 408 of Rule 207. [Rule 207, §306]

COMPLIANCE

10. The permittee must comply with all conditions of the Title V permit. [Rule 207, §305.1(k)(1)]

11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the Title V permit. [Rule 207, §305.1(k)(2)]

12. This Title V permit may be modified, revoked, reopened, and reissued, or terminated for cause. [Rule 207, §305.1(k)(3)]

13. The permittee shall furnish to the Air Pollution Control Officer, within a reasonable time, any information that the Air Pollution Control Officer may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit pursuant to Section 411 of Rule 207 or to determine compliance with this Title V permit. Upon request, the permittee shall also furnish to the Air Pollution Control Officer copies of records required to be kept by conditions of this permit or, for information claimed to be confidential, the permittee may furnish such records directly to the EPA along with a claim of confidentiality. [Rule 207, §305.1(k)(4)]

14. Noncompliance with any Title V permit condition is grounds for Title V permit termination, revocation and reissuance, modification, enforcement action, or denial of the Title V permit renewal application. Any violation of the Title V permit shall also be a violation of Rule 207. [Rule 207, §305.1(k)(5)]

15. A pending Title V permit action or notification of anticipated noncompliance does not stay any permit condition. [Rule 207, §305.1(k)(6)]

16. This Title V permit does not convey any property rights of any sort, or any exclusive privilege. [Rule 207, §305.1(k)(7)]

17. Upon presentation of credentials and other documents as may be required

by law, the permittee shall allow the Air Pollution Control Officer or an authorized representative to perform all of the following: [Rule 207, §413.1]

- A. Enter upon the stationary source's premises where this source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Title V permit;
- C. Inspect at reasonable times the stationary source, equipment (including monitoring and air pollution control equipment), practices, operations regulated or required under this Title V permit; and
- D. As authorized by the Federal Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the Title V permit conditions or applicable federal requirements.

REPORTS AND RECORDKEEPING

18. The permittee shall submit to the Air Pollution Control Officer and EPA (Air-3, U.S. EPA, Region IX) on an annual basis, unless required more frequently by additional applicable federal requirements such as Section 114(a)(3) and 504(b) (42 U.S.C. Sections 7414(a)(3) and 7661c(b)) of the Federal Clean Air Act, a certification of compliance by the responsible official with all terms and conditions contained in the Title V permit, including emission limitations, standards, or work practices. The compliance certification shall include the following and shall be received by the District no later than December 31 of each year: [Rule 207, §413.4]

- A. The identification of each term or condition of the Title V permit that is the basis of the certification;
- B. The compliance status and whether compliance was continuous or intermittent;
- C. The method(s) used for determining the compliance status of the source, currently and over the reporting period;

D. Such other facts as the Air Pollution Control Officer may require to determine the compliance status of the source; and

- E. In accordance with Section 305f of Rule 207, a method for monitoring the compliance of the stationary source with its emissions limitations, standards, and work practices.

19. The permittee must submit an initial report of any required monitoring by December 31, 1997, and every six months (by June 30 and December 31) thereafter. All instances of deviations from Title V permit conditions must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with Section 304. [Rule 207, §501.1]

20. The permittee shall report within 24 hours of detection any deviation from the Title V permit conditions not attributable to an emergency. In order to fulfill the reporting requirement of this condition, the permittee shall notify the Air Pollution Control Officer by telephone followed by a written statement describing the nature of the deviation from the permit conditions. [Rule 207, §501.3]

21. The permittee shall maintain on site, records of operation for all emissions units included in the Title V permit. The records shall contain all of the following information and shall be made available to the Air Pollution Control Officer and EPA for review upon request: [Rule 207, §502.1 & 502.2]

A. Monitoring Records:

- I. The date, place as defined in the Title V permit, and time of sampling or measurements;
- II. The date(s) analyses were performed;
- III. The company or entity that performed the analyses;
- IV. The analytical techniques or methods used;
- V. The results of such analyses; and
- VI. The operating conditions existing at the time of sampling or measurement.

B. Recordkeeping for process weight, fuel usage, and operating hours as specified in the Title V permit conditions.

22. Any Title V application form, report, or compliance certification submitted pursuant to these regulations shall contain certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. [Rule 207, §304]

23. All required monitoring data and support information must be kept by the stationary source for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recording for continuous monitoring instrumentation, and copies of all reports required by the Title V permit. [Rule 207, §502.3]

RINGELMANN CHART

24. Except as otherwise provided in SMAQMD Rule 401, Section 100, a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is:

- A. As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- B. Of such opacity as to obscure a human observer's view, or a certified calibrated in-stack opacity monitoring system to a degree equal to or greater than No. 1 on the Ringelmann Chart. [Rule 401, §301]

PARTICULATE MATTER

25. A person shall take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line from which the emission originates, from any construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation. Reasonable precautions shall include, but are not limited to:

- A. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the construction of roadways or the clearing of land.
- B. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts;
- C. Other means approved by the Air Pollution Control Officer.

[Rule 403, §301]

26. Except as otherwise provided in condition #25, a person shall not discharge into the atmosphere from any source particulate matter in excess of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot). [Rule 404, §301]

27. A person shall not discharge into the atmosphere particulate matter from the burning of any kind of material containing carbon in a free or combined state, from any single source of emission whatsoever, combustion contaminants in any state or combination thereof exceeding in concentration at the point of discharge: 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot) of gas calculated to 12% of carbon dioxide (CO₂) at standard conditions. [Rule 403, §302]

SULFUR COMPOUNDS

28. A person shall not discharge into the atmosphere from any single source of emission whatsoever sulfur compounds in any state or combination thereof exceeding in concentration at the point of discharge: sulfur compounds, calculated as sulfur dioxide (SO₂): 0.2% by volume, except as otherwise provided in condition 27. [Rule 406, §301]

29. Except as otherwise provided in SMAQMD Rule 420, Section 100, a person shall not burn any gaseous fuel containing sulfur compounds in excess of 1.14 grams per cubic meter (50 grains per 100 cubic feet) of gaseous fuel, calculated as hydrogen sulfide at standard conditions, or any liquid fuel or solid fuel having a sulfur content in excess of 0.5% by weight. [Rule 420, §301]

ARCHITECTURAL COATING

30. Any coating applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs, shall meet the requirements of SMAQMD Rule 442. [Rule 442]

31. Grafil, Inc. shall keep a record of all architectural coatings purchased. The record shall include manufacturer's name, product name, VOC content as labeled on can or as per Material Safety Data Sheets (MSDS). [Rule 207, §305.1(g)]

32. All VOC-containing materials shall be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, maintained, or repaired. [Rule 442, §304]

33. A person shall not use volatile organic compounds for the cleanup of spray equipment unless equipment for collection of the cleaning compounds and minimizing its evaporation to the atmosphere is used. [Rule 420, §301]

EQUIPMENT BREAKDOWNS

33. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology based emission limitations if the following conditions are met: [Rule 207, §414]

A. The affirmative defense of an emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- I. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- II. The permitted facility was at the time being properly operated;
- III. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the Title V permit;
- IV. The permittee submitted notice of the emergency to the Air Pollution Control Officer within 2 working days of the time when emissions limitations were exceeded due to the emergency. The notice must contain a description of the emergency, and corrective actions taken.

B. In any enforcement proceedings, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

34. The permittee must notify the Air Pollution Control Officer of any occurrence which constitutes an emergency as defined in Section 212 of Rule 207 as soon as reasonably possible, but no later than one hour after its detection. If the emergency occurs when the Air Pollution Control Officer cannot be contacted, their report of the emergency shall be made at the commencement of the next regular working day. The notification shall identify the time, specific location, equipment involved, and to the extent known the cause(s) of the occurrence. [Rule 207, §501.2]

35. A person shall notify the Air Pollution Control Officer of any occurrence which constitutes a breakdown condition as soon as reasonably possibly, but no later than one hour after its detection. If the breakdown occurs when the Air Pollution Control Officer cannot be contacted, the report of breakdown shall be made at the commencement of the next regular working day. [Rule 602, §301.1]

36. The notification shall identify the time, specific location, equipment involved, and to the extent known the cause(s) of the occurrence. [Rule 602, §301.2]

37. Upon notification of the breakdown condition, the Air Pollution Control Officer shall investigate the breakdown condition in accordance with uniform written procedures and guidelines relating to logging of initial reports on appropriate forms, investigation, and enforcement follow-up. If the occurrence does not constitute a breakdown condition, the Air Pollution Control Officer may take appropriate enforcement action. [Rule 602, §301.3]

38. An occurrence which constitutes a breakdown condition, and which persists only until the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours) shall constitute a violation of any applicable emission limitation or restriction prescribed by these Rules and

Regulations; however, the Air Pollution Control Officer may elect to take no enforcement action if the owner or operator demonstrates to his satisfaction that a breakdown condition exists and the following requirements are met: [Rule 602, §302.1]

- A. The notification required in condition #35 is made; and
- B. Immediate appropriate corrective measures are undertaken and compliance is achieved, or the process is shutdown for corrective measures before commencement of the next production run or within 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment for which the period shall be 96 hours). If the owner or operator elects to shut down rather than come into immediate compliance, (s)he must nonetheless take whatever steps are possible to minimize the impact of the breakdown within the 24 hour period; and
- C. The breakdown does not interfere with the attainment and maintenance of any national ambient air quality standard.

39. An occurrence which constitutes a breakdown condition shall not persist longer than the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours), unless an emergency variance has been obtained. [Rule 602, §302.2]

40. If the breakdown condition will either require more than 24 hours to correct or persists longer than the end of the production run (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours) the owner or operator may, in lieu of shutdown, request the Air Pollution Control Officer to commence the emergency variance procedure set forth in Section 304 of Rule 602. [Rule 602, §302.2]

41. No emergency variance shall be granted unless the chairperson of the Hearing Board or other designated member(s) of the Hearing Board finds that: [Rule 602, §304.2]

- A. The occurrence constitutes a breakdown condition;
- B. Continued operation is not likely to create an immediate threat or hazard to public health or safety; and
- C. The requirements for a variance set forth in Health & Safety Code Sections 42352 and 42353 have been met;
- D. The continued operation in a breakdown condition will not interfere with the attainment or maintenance of the national ambient air quality standards.

42. At any time after an emergency variance has been granted, the Air Pollution Control Officer may request for good cause that the chairperson or designated member(s) reconsider and revoke, modify or further condition the variance. The procedures set forth in Rule 602, Section 304.1 shall govern any further proceedings conducted under this section. [Rule 602, §304.3]

43. An emergency variance shall remain in effect only for as long as necessary to repair or remedy the breakdown condition, but in no event after a properly noticed hearing to consider an interim or 90 day variance has been held, or 15 days from the date of the subject occurrence, whichever is sooner. [Rule 602, §304.4]

44. Within one week after a breakdown condition has been corrected, the

owner or operator shall submit a written report to the Air Pollution Control Officer on forms supplied by the Air Pollution Control Officer describing the causes of the breakdown, corrective measures taken, estimated emissions during the breakdown and a statement that the condition has been corrected, together with the date of correction and proof of compliance. The Air Pollution Control Officer may, at the request of the owner or operator for good cause, extend up to 30 days the deadline for submittal of the report described in this subsection. [Rule 602, §401]

45. The burden of proof shall be on the owner or operator of the source to provide sufficient information to demonstrate that a breakdown did occur. If the owner or operator fails to provide sufficient information, the Air Pollution Control Officer shall undertake appropriate enforcement action. [Rule 602, §401.1]

46. Any failure to comply, or comply in a timely manner, with the reporting requirements established in Sections 301.1 and 401 of Rule 602 shall constitute a separate violation of this rule. [Rule 602, §401.2]

47. It shall constitute a separate violation of this rule for any person to file with the Air Pollution Control Officer a report which falsely, or without probable cause, claims that an occurrence is a breakdown condition. [Rule 602, §401.3]

TITLE VI REQUIREMENTS (OZONE DEPLETING SUBSTANCES)

48. Persons opening appliances containing CFCs for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR, § 82.156. [40 CFR, Part 82, Subpart F]

49. Equipment used during the maintenance, service, repair, or disposal of appliances containing CFCs must comply with the standards for recycling and recovery equipment pursuant to 40 CFR, § 82.158. [40 CFR, Part 82, Subpart F]

50. Persons performing maintenance, service, repair or disposal of appliances containing CFCs must be certified by an approved technician certification program pursuant to 40 CFR, § 82.161. [40 CFR, Part 82, Subpart F]

PAYMENT OF FEES

51. The fee for (1) the issuance of an initial Title V operating permit, (2) the renewal and/or inspection of a Title V operating permit, (3) the modification of a Title V operating permit or (4) an administrative Title V permit amendment shall be based on the actual hours spent by the District staff in evaluating the application and processing the operating permit. The fee shall be assessed in accordance with the hourly rate established in Rule 301, Section 308.12. [Rule 207, Section 305.7 and Rule 301, Section 313]

52. After the provisions for granting permits as set forth in Rule 207 have been complied with, the permittee will be notified by mail of the fee due and payable and the date the fee is due. If the fee is not paid by the specified due date, the fee shall be increased by one half the amount and the applicant/permittee shall be notified by mail of the increased fee. If the increased fee is not paid within 30 days after notice the

application/permit will be canceled/revoked and the applicant/permittee will be notified by mail. [Rule 207, Section 305.7]

ACCIDENTAL RELEASES

53. Should the facility as defined in 40 CFR, §68.3, become subject to Part 68, the permittee shall submit a risk management plan (RMP) by the date specified in 40 CFR §68.10, and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by Rule 207, Section 413.4. [40 CFR, Part 68]

LOCAL (NON-FEDERALLY ENFORCEABLE) GENERAL REQUIREMENTS

LOCAL PERMIT RENEWAL:

1. The requirements outlined in this section pertain to the local Permit to Operate and are not part of the Title V permit.

2. Permits to operate issued to Grafil, Inc. pursuant to SMAQMD Rule 201 (non-Title V permits to operate) shall be renewed annually on November 8th and upon payment of the permit renewal fee established pursuant to SMAQMD Rule 301.

3. The Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials shall be permitted:

A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this Permit to Operate, and

B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Permit to Operate, and

C. To inspect any equipment, operation, or method required in this Permit to Operate, and

D. To sample emissions from the source or require samples to be taken.

4. The Air Pollution Control Officer shall review every Permit to Operate upon annual renewal, pursuant to Health and Safety Code Section 42301(c), to determine that permit conditions are adequate to ensure compliance with, and the enforceability of, District rules and regulations applicable to the article, machine, equipment, or contrivance for which the permit was issued. Applicable District rules and regulations shall include those which were in effect at the time the permit was issued or modified, or which have subsequently been adopted and made retroactively applicable to an existing article, machine, equipment, or contrivance, by the District Board of Directors. The Air Pollution Control Officer shall revise the conditions, if such conditions are not consistent, in accordance with all applicable rules and regulations.

EQUIPMENT OPERATION:

5. The equipment shall be properly maintained.

6. This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26, Chapter 3, of the Health and Safety Codes of the State of California or the Rules and Regulations of the

Sacramento Metropolitan Air Quality Management District.

7. No air contaminant shall be released into the atmosphere which causes a public nuisance.

EQUIPMENT SPECIFIC REQUIREMENTS --- PROCESS LINES 31 & 32
Process Lines 31 and 32:

A. EQUIPMENT DESCRIPTION: The requirements specified under the following subsections apply to the equipment listed below:

Process Line 31: Four oxidation electric ovens and a high-temperature electric furnace vented to a 9.18 MMBtu/hr John Zink afterburner (afterburner #1).

One low-temperature electric furnace vented to a 1.0 MMBtu/hr John Zink afterburner (afterburner #2).

One aqueous ammonium salt solution chemical treatment tank.

P/O No.: (for reference purposes only - not federally enforceable)
Process Line 31: 11430
Afterburner #1: 11425
Afterburner #2: 11427

Process Line 32: Four oxidation electric ovens and a high-temperature electric furnace vented to a 9.18 MMBtu/hr John Zink afterburner (afterburner #3).

One low-temperature electric furnace vented to a 1.0 MMBtu/hr John Zink afterburner (afterburner #4).

One aqueous ammonium salt solution chemical treatment tank.

P/O No.: (for reference purposes only - not federally enforceable)
Process Line 32: 11429
Afterburner #3: 11426
Afterburner #4: 11428

B. EQUIPMENT-SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA, and the public.

EQUIPMENT DESIGN AND OPERATION REQUIREMENTS:

1. The precursor processing rate for each graphite fiber manufacturing process line shall not exceed 128 kg/hr per line. It shall be calculated according to the following equation: [SMAQMD Permits No. 11429 & 11430]

$$\text{precursor process rate} = \text{line speed} * _(\text{no. filaments} * \text{decitex} * \text{no. of ends}) * 1\text{E}-7$$

2. The oxidation ovens and high temperature furnaces shall not process fiber unless the exhaust is vented to afterburner #1 or afterburner #3 which shall be in compliance with all listed permit conditions. [SMAQMD Permits No. 11429 & 11430]

3. A minimum temperature of 750o Celsius, averaged over a one hour period, shall be maintained in the combustion zone of afterburners #1 or #3 when the temperature of the corresponding oxidation ovens is at 205o Celsius or greater. [SMAQMD Permits No. 11425 & 11426]

4. The low temperature furnaces shall not process fiber unless the exhaust is vented to afterburner #2 or afterburner #4 which shall be in compliance with all applicable permit conditions. [SMAQMD Permits No. 11429 & 11430]

5. A minimum temperature of 700o Celsius, averaged over a one hour period, shall be maintained in the combustion zone of afterburners #2 or #4 when the temperature of the corresponding oxidation ovens is at 205o Celsius or greater. [SMAQMD Permits No. 11427 & 11428]

EMISSION LIMITATIONS:

6. The combined total emissions from graphite fiber manufacturing process line 31 and graphite fiber manufacturing process line 32, on a pounds per hour basis, shall not exceed the following limits averaged over a three hour period. [SMAQMD Permits No. 11429 & 11430]

POLLUTANT	MAXIMUM ALLOWABLE EMISSIONS LINE 31 AND LINE 32	
	POUNDS/HOUR (BASED ON 3 HOUR AVERAGE)	
	MAIN STACK	FUGITIVE TOTAL
NOx	5.74N/A	5.74
CO	22.62N/A	22.62
ROC	3.96	0.023.98
SOx	N/A	N/A
PM10	3.20N/A	3.20

7. Graphite fiber manufacturing process lines 31 and 32 shall not discharge into the atmosphere any visible air contaminant other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is 20% opacity or greater. [Rule 401, Section 301 and SMAQMD Permits No. 11429 & 11430]

MONITORING REQUIREMENTS:

8. The line speed meter and associated chart recorder for each process line shall be maintained to monitor and record precursor process rates when the process is in operation. [SMAQMD Permits No. 11429 & 11430]

9. The temperature gauge and the associated chart recorder for the afterburner shall be maintained to monitor and record the temperature when the process is in operation. In the event of a chart recorder failure, manual hourly temperature recordkeeping is allowed. Manual record keeping shall not exceed 5 time periods per calendar year and each period shall not exceed 24 hours. [SMAQMD Permits No. 11425, 11426, 11427 and 11428]

RECORDKEEPING REQUIREMENTS:

10. For each process line, records shall be maintained of: [SMAQMD Permits No. 11425 through 11430]

A. The production data for each production run including weight (kg/hr) of precursor processed, line speed (m/hr), number and type (decitex) of ends processed, number of filaments, and start and end dates and time.

B. The line speed in m/hr when the process is in operation.

C. The monthly facility natural gas usage (therms/month).

Grafil shall follow a recordkeeping format (Attachment B) which has been approved by the Air Pollution Control Officer. These records shall be continuously maintained for the most recent 5 year period and shall be made available to the Air Pollution Control Officer upon request.

11. Record of the afterburner temperature shall be continuously maintained for the most recent five (5) year period and shall be made available to the air pollution control officer upon request. [SMAQMD Permits No. 11425, 11426, 11427 and 11428]

SOURCE TESTING:

12. An emission test for NO_x, CO, ROC, PM and PM₁₀ shall be conducted annually. The test shall conform to the following test condition and time schedule: [SMAQMD Permits No. 11429 & 11430]

Test Condition

A. The annual source test shall be conducted at a combined total precursor process rate (graphite fiber mfg process line 31 and line 32) of no less than 230 kg/hr.

Time Schedule

B. A pre-test plan outlining the test methods and operating parameters shall be submitted for district approval at least 30 days prior to the proposed test date.

C. The district shall be given at least seven days notice of the actual time and date of each test so that a district representative may observe the test.

D. The results of each test shall be submitted to the district no later than 60 days following each test.

13. The Air Pollution Control Officer may waive all or any portion of the annual source test requirement if, in the Air Pollution Control Officer's sole judgement, prior test results indicate an adequate margin has been maintained. [SMAQMD Permits No. 11429 & 11430]

SCHEDULE OF COMPLIANCE:

14. Grafil Inc. shall operate in accordance with all the requirements of the Compliance Plan (see Attachment C) including remedial measures to be taken, milestones, and timely progress reports, until Grafil Inc. can demonstrate compliance with the PM₁₀ emission limit of Condition #6.

C. NON-FEDERALLY ENFORCEABLE REQUIREMENTS:

1. HCN emission concentrations from the plant exhaust stack, as measured by the primary continuous HCN emission monitor, shall not exceed 95 ppm averaged over a period of 15 minutes as shown on the monitor's chart (at a strip chart speed of 20 mm/hr or greater).

2. The primary continuous HCN emission monitor shall be operated whenever the process is in operation. The HCN monitor shall be maintained and calibrated. Grafil shall follow the HCN monitor maintenance and calibration schedule (Attachment A) approved by the Air Pollution Control Officer.

3. For each process line, records shall be maintained of:

A. The continuous HCN concentration in ppm at the plant exhaust stack when the process is in operation.

B. The HCN monitor maintenance and calibration activity log.

Grafil shall follow a recordkeeping format (Attachment B) which has been approved by the Air Pollution Control Officer. These records shall be continuously maintained for the most recent 5 year period and shall be made available to the Air Pollution Control Officer upon request.

4. The Air Pollution Control Officer shall be notified by phone within 8 hours of determining that the primary continuous HCN emission monitor indicates HCN concentrations in excess of 95 ppm, averaged over a period of 15 minutes as shown on the monitor's strip chart (at a strip chart speed of 20 mm/hr or greater). A written follow up report shall be submitted within 7 days to the Air Pollution Control Officer. The report shall include the date, time and ppm reading of the excess HCN concentration and any shut down procedures implemented.

5. An emission test for HCN shall be conducted annually. The test shall conform to the following test condition and time schedule:

Test Condition

A. The annual source test shall be conducted at a combined total precursor process rate (graphite fiber mfg process line 31 and line 32) of no less than 230 kg/hr.

Time Schedule

B. A pre-test plan outlining the test methods and operating parameters shall be submitted for district approval at least 30 days prior to the proposed test date.

C. The district shall be given at least seven days notice of the actual time and date of each test so that a district representative may observe the test.

D. The results of each test shall be submitted to the district no later than 60 days following each test.

EQUIPMENT SPECIFIC REQUIREMENTS --- BOILER

A. EQUIPMENT DESCRIPTION: The requirements specified under the following subsections apply to the equipment listed below:

Manufacturer: Williams & Davis Boilers, Inc.

Model No.: 170

Serial No.: 1769

Rating: 1.26 MMBtu/hr

Fuel: Natural Gas

P/O No.: 9828 (for reference purposes only - not federally enforceable)

B. EQUIPMENT-SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA, and the public.

EQUIPMENT DESIGN AND OPERATION REQUIREMENTS:

1. The boiler shall operate on PUC-regulated natural gas only. [SMAQMD Permit No. 9828]

EMISSION LIMITATIONS:

2. The emissions from the boiler shall not exceed the following limits:
[SMAQMD Permit No. 9828]

Pollutant	Emission Factor (lb/MMscf)	Emission Limit (lb/day)*
PM10	12	0.36
CO	21	0.63
NOX	100	3.0
SOX	0.6	0.02
ROC	8	0.24

* These emission limits are based on the boiler's maximum design capacity,
24 hours per day (30,240 cu. ft./day)

EQUIPMENT-SPECIFIC REQUIREMENTS --- STANDBY IC ENGINE

A. EQUIPMENT DESCRIPTION: The requirements specified under the following
subsections apply to the equipment listed below:

Manufacturer: Chrysler, Assembled by DMT Corporation

Model No.: DMT-45CR

Serial No.: 840272

Rating: 187 horsepower

Fuel: Propane

P/O No.: 9827 (for reference purposes only - not federally enforceable)

Mode: This engine will operate as a stand-by unit and will operate for
maintenance purposes (<100 hrs/year) and for actual interruptions of power.
Actual interruptions of power typically average 14 hours per year.

B. EQUIPMENT-SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements
specified under this subsection are enforceable by the District, U.S. EPA,
and the public.

EQUIPMENT DESIGN AND OPERATION REQUIREMENTS:

1. Upon request of the Air Pollution Control Officer, once each year,
during daylight hours, the engine must be run under load for observation of
compliance with opacity limitations. [SMAQMD Permit No. 9827]

2. This engine shall not be operated in excess of 100 hours per year for
maintenance purposes. Maintenance purposes are defined as: the operation of
an internal combustion engine in order to preserve the integrity of the
engine and its associated generator. [SMAQMD Permit No. 9827]

3. Operation for other than maintenance purposes shall be limited to actual
interruptions of power by the serving utility. Actual interruptions of
power are defined as: when electrical service is interrupted by an
unforeseeable event or when the power reserves of the serving utility fall
below 5 percent. [SMAQMD Permit No. 9827]

4. The engine shall be equipped with a non-resetting totalizing hour meter.
[SMAQMD Rule 412, Section 304]

RECORDKEEPING REQUIREMENTS:

5. Daily records of actual operating hours due to maintenance or power

interruptions shall be kept and made available to the Air Pollution Control Officer upon request. [SMAQMD Permit No. 9827 & SMAQMD Rule 412, Section 501]

6. The records shall be continuously maintained for the most recent five year period and shall be made available to the Air Pollution Control Officer upon request. [SMAQMD Rule 412, Section 501 and Rule 207, Section 502]

EQUIPMENT-SPECIFIC REQUIREMENTS --- BAGHOUSE

A. EQUIPMENT DESCRIPTION: The requirements specified under the following subsections apply to the equipment listed below:

Baghouse: Manufacturer: G.L. Air Technology

Model: S120GLP100T

P/O No.: 13570 (for reference purposes only - not federally enforceable)

B. EQUIPMENT-SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA, and the public.

EQUIPMENT DESIGN AND OPERATION REQUIREMENTS:

1. After installation and startup the baghouse shall be operated continuously whenever graphite fiber manufacturing line 32 is in operation. The installation and startup of this baghouse shall be performed in accordance with the manufacturers specifications. Continuous baghouse operation shall include up to five (5) minutes of bypass operation each hour, in which the exhaust air stream from graphite fiber manufacturing line 32 is made to bypass the baghouse and go directly to the main exhaust fan. [SMAQMD Permit No. 13570]

EMISSION LIMITATIONS:

2. The baghouse shall not discharge into the atmosphere any visible air contaminant other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. [SMAQMD Rule 401, §301 and Permit No. 13570]

3. Particulate matter concentration from the main stack shall not exceed 0.1 grains/dscf corrected to 12% CO₂. [SMAQMD Rule 406, §302 and Permit No. 13570]

4. The combined total PM₁₀ emissions from graphite fiber manufacturing process line 31 and graphite fiber manufacturing process line 32, at the main stack, shall not exceed the following limits. [SMAQMD Permit No. 13570]

Pollutant	Maximum Allowable Emissions
	Lb/hr (1)Lb/qtr (2)
PM ₁₀	3.27066

(1) A three hour average shall be utilized to determine the hourly emission rate.

(2) The quarterly emissions are based on the maximum allowable hourly emission multiplied by 24 hr/day, 92 days/qtr.

RECORDKEEPING REQUIREMENTS:

5. The following record shall be continuously maintained on-site for the most recent five year period and shall be made available to the air pollution control officer upon request. [SMAQMD Permit No. 13570]

Frequency	Information to be recorded
When operating on bypass mode	Date and time (duration) of operation of the bypass system

SOURCE TESTING:

6. An initial emission test for PM and PM10 shall be conducted within 60 days of startup to demonstrate compliance with conditions 2 and 4. The test shall conform to the following test condition and time schedule: [SMAQMD Permit No. 13570]

Test Condition

A. The source test shall be conducted at a combined total precursor process rate (graphite fiber mfg process line 31 and line 32) of no less than 230 kg/hr.

B. The source test shall include five (5) minutes of bypass operation per hour, as described in Condition no. 1.

Time schedule

A. A pre-test plan outlining the test methods and operating parameters shall be submitted for District approval at least 30 days prior to the proposed test date.

B. The District shall be given at least seven days notice of the actual time and date of each test so that a District representative may observe the test.

C. The results of the test shall be submitted to the District no later than 60 days following the test.

INSIGNIFICANT EMISSIONS UNIT INFORMATION

The following systems are considered insignificant emissions units and are not subject to equipment-specific requirements. However, these units are required to comply with all applicable general requirements:

Cold Solvent Cleaner:

This unit is a unheated, non-conveyorized solvent rinsing container less than 100 gallons capacity (Safety-Kleen Unit Model No. 23) and it is therefore exempt pursuant to Rule 201, Sections 117.4 & 118.3. The unit uses Safety-Kleen® solvent which is not a halogenated solvent subject to the Halogenated Solvent Cleaner NESHAP (40 CFR, Part 63, Subpart T).

Boiler:

One of the boilers is a Model P-20 manufactured by Rite Engineering with a rated capacity of 0.67 MMBtu/hr. This boiler is therefore exempt from permitting pursuant to Rule 201, Section 112.2. The other boiler is rated at 1.26 MMBtu/hr and is permitted as a significant emissions unit.

Laboratory Rooms:

This facility has three laboratory rooms equipped with fume hoods, small electric ovens and materials for chemical and physical analysis. Since the

equipment is used exclusively for lab analysis and bench scale tests, it is exempt from permitting pursuant to Rule 201, Section 120.

Air Conditioning Units:

Although these units are exempt from permitting pursuant to Rule 201, Section 115, they are subject to Title VI. Title VI requirements for air conditioning units will be addressed in the Title V permit under the General Requirements section.

Epoxy Resin Mixers:

These units emit less than 2 lbs/day of any criteria pollutant and trace or no emissions of HAPs. Therefore, these units are exempt from permitting pursuant to Rule 201, § 122.

Water-Based Solution at the Nylon Coating Carbon Fiber Processing Line:

This unit emits less than 2 lbs/day of any criteria pollutant and trace or no emissions of HAPs. Therefore, this unit is exempt from permitting pursuant to Rule 201, Section 122.

Surface Treatment of the Fibers With an Aqueous Ammonium Salt Solution:

This process emits less than 2 lbs/day of any criteria pollutant and trace or no emissions of HAPs. Therefore, this process is exempt from permitting pursuant to Rule 201, § 122.